REMARKS/ARGUMENTS

Claims 11-20 and 22-25 are active.

Claim 11 and Claim 25 is supported by the disclosure in the Examples on page 7, Table 1, first line and example 1, page 5, line 39.

Claim 24 is supported in the Examples, page 7, table 1, line 3 and page 8, table 2, lines 3 and 5.

No new matter is added.

Summary

The Examiner has maintained and raised new obviousness rejections to allege that the claims would have been obvious in view of Mills, Montville, Knight and/or Rochat. Applicants respectfully disagree. While sodium bicarbonate is known as a fungicide, the fact that Mills teaches that acarids do not require fungi to live gives no reasonable expectation that the use of sodium bicarbonate would combat acarids in the storage of cereals. This is supported by the fact that Example 1 in the present application, which shows 98% survival of mites without noticeable fungi being present.

In the "Response to Arguments" section starting at page 10, it is argued that because there is some symbiotic relationship between mites and fungi, the destruction of fungi will, to some degree, reduce or combat acarids. However, the claims as presented in this paper define a percent mortality in the claims, e.g., as shown in Table 1 (see page 7 of the application) and Applicants continue to submit that such a degree of mortality would not have been reasonably predictable from what is taught in the cited art.

The rejection under 35 USC 103(a) citing Mills and Montville

Mills teaches that grain mites (acarids) commonly occur in combination with Aspergillus spp. in stored cereals and oilseeds (Table 1). Mills is silent on the necessity of presence of fungi for acarids survival, and Mills is silent on mortality rate of acarids when fungi are combated. Indeed Mills teaches in Fig 1 - Diagram G that: specific mites, such as Cheyletus, interact with other mites without interacting with fungi. In this same diagram Mills teaches that other mites, as Acarus, may directly eat the seed. Mills also comments the diagram 1G at page 332, column 2, second paragraph, that mites feed on kernels, grain dust, or seed borne fungi. Therefore Mills teaches that acarids do not require fungi to be fed and live. The fact that acarids can live without noticeable fungi presence on their living surface is also exemplified in present patent specification in example 1 where the control samples show that Acarus mites that are introduced in clean Petri dishes without the presence of cereals, and so without noticeable associated fungi introduction lead to 98% of mites survival after 48 h; and example 2, similar with Tyrophagus mites tests.

Therefore, the person of ordinary skill in the art of combating acarids in cereals, reading Mills teaching that acarids do not require fungi to be fed and live, would not have read Montville.

Even so, Montville tested several methods to add sodium bicarbonate to corn. Montville (see page 45 last paragraph and page 46 first one) does not teach a powder composition of sodium bicarbonate but in fact teaches away from a powder because Montville teaches an immersion method of corn into a sodium bicarbonate solution to avoid an uneven distribution of sodium bicarbonate on corn surface.

Therefore Montville teaches away the claimed invention in which sodium bicarbonate is applied as a powder.

In addition, Mills and Montville do not suggest a powder comprising more than 40% by weight sodium bicarbonate to combat acarids.

Accordingly the person of ordinary skill in the art of combating acarids in the storage of cereals, reading Mills who teaches that acarids do not require fungi to be fed and live, would not have read Montville teaching that sodium bicarbonate inhibits the growth of A. parasiticus fungi. Even so, Montville clearly teaches away from the claimed invention where sodium bicarbonate is in powder form.

Withdrawal of the rejection is requested.

The rejection of Claim 12 citing Mills, Montville, and Applying Pesticides Correctly

Claim 12 is separately rejected further in view of Applying Pesticides Correctly pertaining to placement of the sodium bicarbonate, something allegedly taught by this citation. Applying Pesticides Correctly, however, does not remedy the fact that Mills and Montville fail to teach, and indeed teach away from, the claimed method.

More specifically, Montville teaches away from a powder for corn (see above) as claimed and Applying Pesticides Correctly is unclear on a powder. At page 72 column 2, first paragraph Applying Pesticides teaches the use of a wettable powder on porous surface rather than an emulsifiate concentrate or oil base pesticide, the "wettable" adjective can be understood to apply it in liquid form as taught at page 73, column 2, first paragraph, where Applying Pesticides states that porous surface is an advantage and that it may be possible to saturate the material with the pesticide and absorb the pesticide especially with liquid or gas application.

Withdrawal of the rejection is requested.

The rejection of Claims 18 and 19 citing Mills, Montville, and Misato

Claims 18 and 19 are separately rejected further in view of Misato pertaining to the presence of silica. Misato, however, does not remedy the fact that Mills and Montville fail to teach, and indeed teach away from, the claimed method. Further, Misato provides no teaching relevant to the treatment of acarids because like Montville, Misato only teaches fungicide effects and also Misato teaches away from the use of a powder.

Indeed, Misato teaches that sodium bicarbonate cannot be used alone as a fungicide because it is inferior in adhesiveness and spreadability (CL1 L 47-5 1). Misato discloses the co-use of sodium bicarbonate and an emulsifier (CL 2, L 13-14), for the production of a wettable powder, that is used in diluted solution in all Test examples 1 to 18 (CL8-17) by spraying the diluted solution (Tests examples 1 CL8 L8 and L19, Test examples 2, 3, 5, 6, 7, 9, 10, 12, 17, 18) or immersing in a diluted solution (Test example 4 CL9 L46-48, Test examples 8, 11, 13, 14, 15, and 16). Moreover Misato teaches the use of silica as a carrier in a long list of components, without r teaching that some specific carriers in the list present more activity and synergy with sodium bicarbonate to combat acarids. One would not have readily chosen silica among Misato lists.

Therefore, the combination of citations cannot render the claims obvious. Withdrawal of the rejection is requested.

The rejection citing Mills and Knight

This rejection combines Mills who teaches that grain mites (acarids) commonly occur in combination with Aspergillus spp. in stored cereals and oilseeds (Table 1). Mills is silent on the necessity of presence of fungi for Acarids survival.

As Mills is silent on the use of sodium bicarbonate as acaricidal composition, Knight is cited.

The person ordinarily skilled in the art of combating acarids, would have known that acarids are in a separate scientific class "Acarids" from the "Insect" scientific class. Each class includes a large number of species. Therefore, looking for a method to combat acarids, the person skilled in the art could but would not have read Knight.

Knight relates to the treatment of **insects**, rather than acarids, evidence already has been provided establishing this difference. Col. 2, lines 56-63 of Knight shows that the mechanism of action of his disclosed composition **critically depends on and works** between **these plates to enter the body**. Acarids **do not** have primary body segmentation. That is, their skeleton is in one piece (see evidence previously submitted). In fact, in the present invention the composition is believed to act only at the external surface of the acarid. See, e.g., specification page 2, lines 24-34.

Knight specifically teaches that "As an ant or other insect moves amongst the particles, the particles tend to work themselves between the insect protective body plates and they tend to pierce the exoskeleton." (col 2, lines 60-64, emphasis added; see also FIG. 1 and FIG. 2): Thus, Knight's discussion relates to **insects** whose exoskeletons are **divided into "plates"**, the dynamic movement of the insect create the penetration of the composition.

In contrast, an acarid "is generally distinguished by the lack of body segmentation. (see Encylcopedia Britanica online definition, already of record). Therefore, rather than provide support for the rejection that it would have been reasonably predicted that what is useful for insects would also be useful for acarids, Knight's discussion actually teaches away from the claimed method. This is so because, one reading Knight's disclosure would understand that acarids, who do not have the body segmentation that Knight describes, would not necessarily be susceptible to the same piercing effects of the particles. see MPEP § 141.02 (prior art must be considered in its entirety, including disclosures that teach away from the claims).

Therefore, the combination of citations cannot render the claims obvious. Withdrawal of the rejection is requested.

A Notice of Allowance without further delay is kindly requested.

Respectfully submitted,

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